

Advanced LIGO Engineering Change Request (ECR)

ECR: Modify ISCT6 to make space for the squeezer DCC No: E1700221-v1

Date: 6/23/2017

Requester: Daniel Sigg

Impacted Subsystem(s):

ISC

Description of Proposed Change(s): The squeezer is using the ISCT6 table to generate the green pump and the CLF beam. To accommodate the upgrade:

1. The beam path for the reflected OMC light will be blocked in vacuum and the associated opto-mechanical components on ISCT6 will be removed.
2. The beam path for the transmitted OMC light will be intercepted at the vacuum port with a camera. The associated opto-mechanical components on ISCT6 will be removed.
3. The AS port sample beam will stay, but the ASAIR detectors for LSC and ASC will be removed. Only the camera will stay and the possibility to make diagnostics measurements.
4. The IOT2R table which is no longer needed to look at the IM4 transmitted beam (blocked in vacuum) will move from HAM2 to the opposite side of HAM6. It will be renamed into SQZT6.

A sketch of the new layout is available in D1500297.

Reason for Change(s): The squeezer will use two optics tables that are located besides HAM6.

Estimated Cost: No additional costs, included in the squeezer budget.

Schedule Impact Estimate: Part of the squeezer upgrade, see corresponding schedule.

Nature of Change (check all that apply):

- Hardware Safety
- Correct Hardware
- Correct Documentation

- Improve Hardware
- Improve/Clarify Documentation
- Change Interface
- Change Requirement

Importance:

- Desirable for ease of use, diagnostics
- Desirable for improved performance, reliability
- Essential for performance, reliability
- Essential for function
- Essential for hardware safety

Urgency:

- No urgency
- Desirable by date/event: After O2
- Essential by date/event: _____
- Immediately

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Impacted Hardware (select all that apply):

Repair/Modify. List part & SNs: _____

Scrap & Replace. List part & SNs: _____

Installed units? List IFO, part & SNs: _____

Future units to be built

Impacted Documentation (list all dwgs, design reports, test reports, specifications, etc.):

D1201210, D1500297, E1700104, E1201082, D0902284

Disposition of the proposed change(s):

The disposition of this proposed engineering change request is to be completed by Systems Engineering and indicated in the “Notes and Changes” metadata field in the DCC entry for this ECR. The typical dispositions are as follows:

- **Additional Information Required**: in which case the additional information requested is defined. The ECR requester then re-submits the ECR with the new information using the same DCC number for the ECR but with the next version number.
- **Rejected**: in which case the reason(s) for the rejection are to be given
- **Approved**
- **Approved with Caveat(s)**: in which case the caveat(s) are listed
- **TRB**: the ECR is referred to an ad-hoc Technical Review Board for further evaluation and recommendation. It is the System Engineer’s (or designee’s) responsibility to organize the TRB. The System Engineer (or designee) then makes a technical decision based on the TRB’s recommendation. Links to the TRB’s documentation (charge, memos, final report, etc.) are to be added to the “Related Documents” field for this ECR.
- **CCB**: a change request for approval of additional funds or schedule impact is to be submitted to the Configuration Control Board. Links to the CCB’s documentation (CR, etc.) are to be added to the “Related Documents” field for this ECR.